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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,256	04/09/2001	Jeffrey Dinkel	DINK1	7582
6980 7590 05/05/2009 TROUTMAN SANDERS LLP BANK OF AMERICA PLAZA 600 PEACHTREE STREET, N.E. SUITE 5200 ATLANTA, GA 30308-2216				
EXAMINER				
A. PHI DIEU TRAN				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

09/829,256

**Applicant(s)**

DINKEL, JEFFREY

**Examiner**

PHI D. A

**Art Unit**

3633

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9, 11-13, 45, 46, 49, 50, 52 and 53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-13, 45, 46, 49, 50, 52 and 53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/3508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 45 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 “greater than or equal to that of felt paper” is not supported by the originally filed specification.

Claim 45 “consists of flashspun high-density polyethylene fibers” is not supported by the originally filed specification.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 45 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Line 3 “having;” is confusing.

***The claims are examined as best understood.***

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 8-9, 13, 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkel (3284980) in view of Mathieu (6187409) and Gallup (2475781).

Dinkel shows a prefabricated construction element for use after its manufacturing as an underlayment or backerboard comprising a cementitious core (3) having an upper principal face and a lower principal face, the upper principal surface having reinforcing mesh material embedded in or adhered thereto, a cementitious bonding surface remaining on the upper principal face of the element after the manufacture of the construction element, the construction element being prefabricated, the cement core comprising Portland cement and an additive selected from the group consisting of expanded shale, expanded clay, sintered clay, pumice, slag, calcium carbonate, slate, perlite, vermiculite, volcanic cinders, tuff, sintered fly ash, industrial cinders, foam beads, glass beads (light aggregate), the upper principal face having a single layer of pervious reinforcing mesh embedded in or adhered to the upper principal surface, an upper cementitious coating disposed on the upper principal face of the core and the pervious reinforcing mesh, a pervious cementitious bonding surface remaining on the upper principal face of the panel after manufacture of the cementitious panel,).

Dinkel does not show the lower principal face not having reinforcement mesh material embedded in or adhered to the lower principal surface, an impervious non-cementitious

reinforcement web disposed directly on the lower principal face of the core while the core is in a plastic state, the impervious web non-adhesive non-cementitious reinforcement web remaining on the lower principal face of the core after the manufacture of the element, a non-cementitious surface remaining on the lower principal face of the element after the manufacture of the construction element, the impervious non-cementitious web having sufficient tensile strength to provide the construction element with a flexural strength capable of supporting loads associated with elements used as an underlayment or backerboard, the impervious web having a resistance to free water penetration greater than or equal to that of felt paper, the core including alkaline resistant fibers, the non-adhesive non-cementitious reinforcement web adhering to the lower principle face of the core as the core hardens, the web being an alkaline resistant polymer.

Gallup shows an element having a core (10), the core having the lower principal face not having reinforcement mesh material embedded in or adhered to the lower principal surface, an impervious non-cementitious reinforcement web (11) disposed directly on the lower principal face of the core while the core is in a plastic state, the impervious web non-adhesive non-cementitious reinforcement web remaining on the lower principal face of the core after the manufacture of the element, a non-cementitious surface remaining on the lower principal face of the element after the manufacture of the construction element, the impervious non-cementitious web having sufficient tensile strength to provide the construction element with a flexural strength capable of supporting loads associated with elements used as an underlayment or backerboard, the impervious web having a resistance to free water penetration greater than or equal to that of felt paper, the non-adhesive non-cementitious reinforcement web adhering to the lower principle face of the core as the core hardens, the web being an alkaline resistant polymer.

Mathieu discloses a core being reinforced with alkaline resistant fibers to strengthen the core.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dinkel's structure to show an element having a core (10), the core having the lower principal face not having reinforcement mesh material embedded in or adhered to the lower principal surface, an impervious non-cementitious reinforcement web (11) disposed directly on the lower principal face of the core while the core is in a plastic state, the impervious web non-adhesive non-cementitious reinforcement web remaining on the lower principal face of the core after the manufacture of the element, a non-cementitious surface remaining on the lower principal face of the element after the manufacture of the construction element, the impervious non-cementitious web having sufficient tensile strength to provide the construction element with a flexural strength capable of supporting loads associated with elements used as an underlayment or backerboard, the impervious web having a resistance to free water penetration greater than or equal to that of felt paper, the non-adhesive non-cementitious reinforcement web adhering to the lower principle face of the core as the core hardens, the web being an alkaline resistant polymer as taught by Gallup in order to provide a construction element that is highly resistant to water penetration, and having the core including alkaline resistant fibers would strengthen the core of the panel as taught by Mathieu.

Per claim 9, Dinkel as modified shows the impervious non-cementitious reinforcement web comprising a single reinforced polymer membrane layer.

Per claim 52, Dinkel as modified shows a backerboard panel consisting of a cementitious core having first surface and a second surface, a reinforcement mesh material embedded in the

first surface, an upper coating disposed on the first surface and the reinforcement mesh, and a non-adhesive alkaline resistant impervious membrane disposed directly on the second surface, wherein the membrane is disposed on the core in its plastic state and adheres to the core as the core hardens.

2. Claims 2, 3-4, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkel in view of Mathieu (6187409) and Gallup as applied to claim 1 above and further in view of Wilson et al (4722866).

Dinkel as modified shows all the claimed limitations except for the fiber being chopped reinforcement fibers randomly dispersed in the core.

Wilson discloses fiber being chopped reinforcement fibers randomly dispersed in the core to reinforce the core (col 4 lines 15-29).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dinkel's modified structure to show the fiber being chopped reinforcement fibers randomly dispersed in the core as taught by Wilson since the fibers would reinforce the core against crack and spalling of the core when the core is exposed to elevated temperatures (col 4 lines 63-67).

Per claims 3-4, Dinkel as modified further shows the reinforcement web comprising a reinforced polymer membrane, the web comprising water impervious paperboard,

3. Claims 5, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkel in view of Mathieu (6187409), Gallup and Wilson as applied to claim 2 or 8 above and further in view of Flack et al (4828635).

Dinkel as modified shows all the claimed limitations except for the web comprising spunbonded olefin.

Flack et al discloses a web made of spunbonded olefin.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dinkel's modified structure to show the membrane comprising spunbonded olefin because it allows for the construction of a water vapor permeable layer and energy cost saving as taught by Flack et al.

4. Claims 6, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkel in view of Mathieu (6187409), Wilson and Gallup as applied to claim 2 or 8 above and further in view of Galer (4450022).

Dinkel as modified shows all the claimed limitations except for the non-cementitious web comprising an alkaline resistant dense polymer fiber mat.

Galer shows a membrane being an alkaline resistant dense polymer fiber mat.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dinkel's modified structure to show a non-cementitious web comprising an alkaline resistant dense polymer fiber mat because it enables the formation of a reinforced protective layer as taught by Galer. of the core while the core is in a plastic state and bonded to the core by the hardening of the core as taught by Gallup in order to form an element that is resistant to cracking and spalling

5. Claims 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkel (3284980) in view of Gallup (2475781) and applicant disclosure page 1 lines 23-31.



Dinkel shows a construction panel comprising a cement core (3) having an upper principal face and a lower principal face, an upper stratum face consisting of a pervious reinforcement mesh having a coating of cement slurry disposed on the surface of the mesh, the mesh embedded in the upper principal face of the core, a lower stratum on the lower principal face of the core.

Dinkel does not show the lower stratum consisting of an impervious non-adhesive non-cementitious reinforcement web layer disposed directly on the lower principal face of the core while the core is in a plastic state and bonded to the core by the hardening of the core, the web consists of flashspun high density polyethylene fibers.

Gallup shows a core having a lower stratum (at 11 bottom) consisting of an impervious non-cementitious reinforcement web layer disposed directly on the lower principal face of the core, the web can be made of any suitable fabric or fibrous material (col 3 lines 18-20).

Applicant page 1 lines 23-31 discloses the use of polyethylene fibers forming a mat being well known moisture barriers like felt paper or spunbonded olefin.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dinkel's structure to show the lower stratum consisting of an impervious non-adhesive non-cementitious reinforcement web layer disposed directly on the lower principal face g, and having the web made of dense spunbonded polyethylene instead of felt would have been obvious to one having ordinary skill in the art as felt and polyethylene are well known commonly used equivalence of each other as disclosed by applicant.

Per claim 46, Dinkel as modified further shows the upper principal face and the lower principal face having different moisture resistant surfaces respectively, on each.

6. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkel (3284980) in view of Gallup as applied to claim 45 above and further in view of Mathieu (6187409).

Dinkel as modified shows all the claimed limitations except for the core including alkaline resistant fibers.

Mathieu discloses a cement core including alkaline resistance fibers.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dinkel's structure to show the core including alkaline resistant fibers would strengthen the core of the panel as taught by Mathieu.

7. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkel in view of Gallup and Mathieu (6187409) as applied to claim 49 above and further in view of Wilson et al (4722866).

Dinkel as modified shows all the claimed limitations except for the fiber being chopped reinforcement fibers randomly dispersed in the core.

Wilson discloses fiber being chopped reinforcement fibers randomly dispersed in the core to reinforce the core (col 4 lines 15-29).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dinkel's modified structure to show the fiber being chopped reinforcement fibers randomly dispersed in the core as taught by Wilson since the fibers would reinforce the core against crack and spalling of the core when the core is exposed to elevated temperatures (col 4 lines 63-67).

8. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkel (3284980) in view of Gallup (2475781) and applicant disclosure page 1 lines 23-31.

Dinkel shows a backerboard panel consisting of a cementitious core having first surface and a second surface, a reinforcement mesh material embedded in the first surface, a coating disposed atop the first surface.

Dinkel does not show a non-adhesive impervious membrane composed of non-woven spunbonded olefin fibers disposed directly on the second surface, wherein the membrane is disposed on the core in its plastic state and adheres to the core as the core hardens.

Gallup shows a non-adhesive impervious membrane (11) composed of fibers disposed directly on the second surface, wherein the membrane is disposed on the core in its plastic state and adheres to the core as the core hardens.

Applicant page 1 lines 23-31 discloses the use of polyethylene, spunbonded olefin forming a mat being well known moisture barriers like felt paper.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Dinkel's structure to show a non-adhesive impervious membrane (11) composed of fibers disposed directly on the second surface, wherein the membrane is disposed on the core in its plastic state and adheres to the core as the core hardens as taught by Gallup in order to form an element that is resistant to crack and spalling, and having the web made of non-woven spunbonded olefin fibers disposed directly on the second surface instead of felt would have been obvious to one having ordinary skill in the art as felt and polyethylene are well known commonly used equivalence of each other as disclosed by applicant.

#### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-9, 11-13, 45-46, 49-50, 52-53 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art shows different layered panel designs.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phi D A whose telephone number is 571-272-6864. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Glessner can be reached on 571-272-6843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Phi D A/  
Primary Examiner, Art Unit 3633

Phi Dieu Tran A

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